Cost Effective Equipment

Apogee™ Mechanical Debonder – Equipment Overview

Apogee ™ Mechanical Debonder Physical System Dimensions

Apogee™ Mechanical Debonder – Front View, With Dimensions

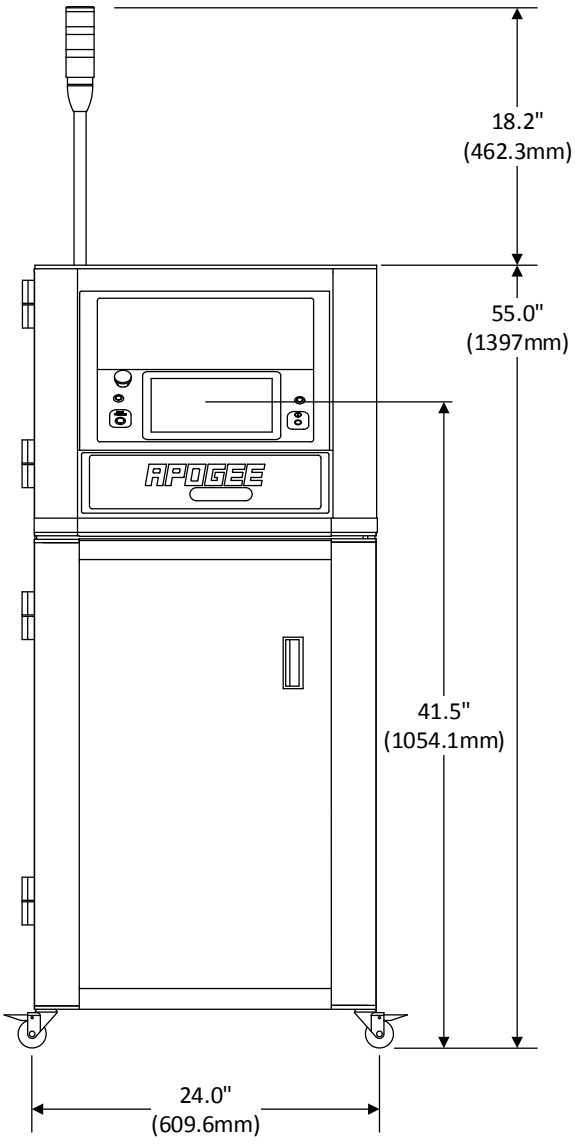

Figure 1: Apogee™ Mechanical Debonder
Front View – With Dimensions

Apogee™ Mechanical Debonder – Side View – With Dimensions

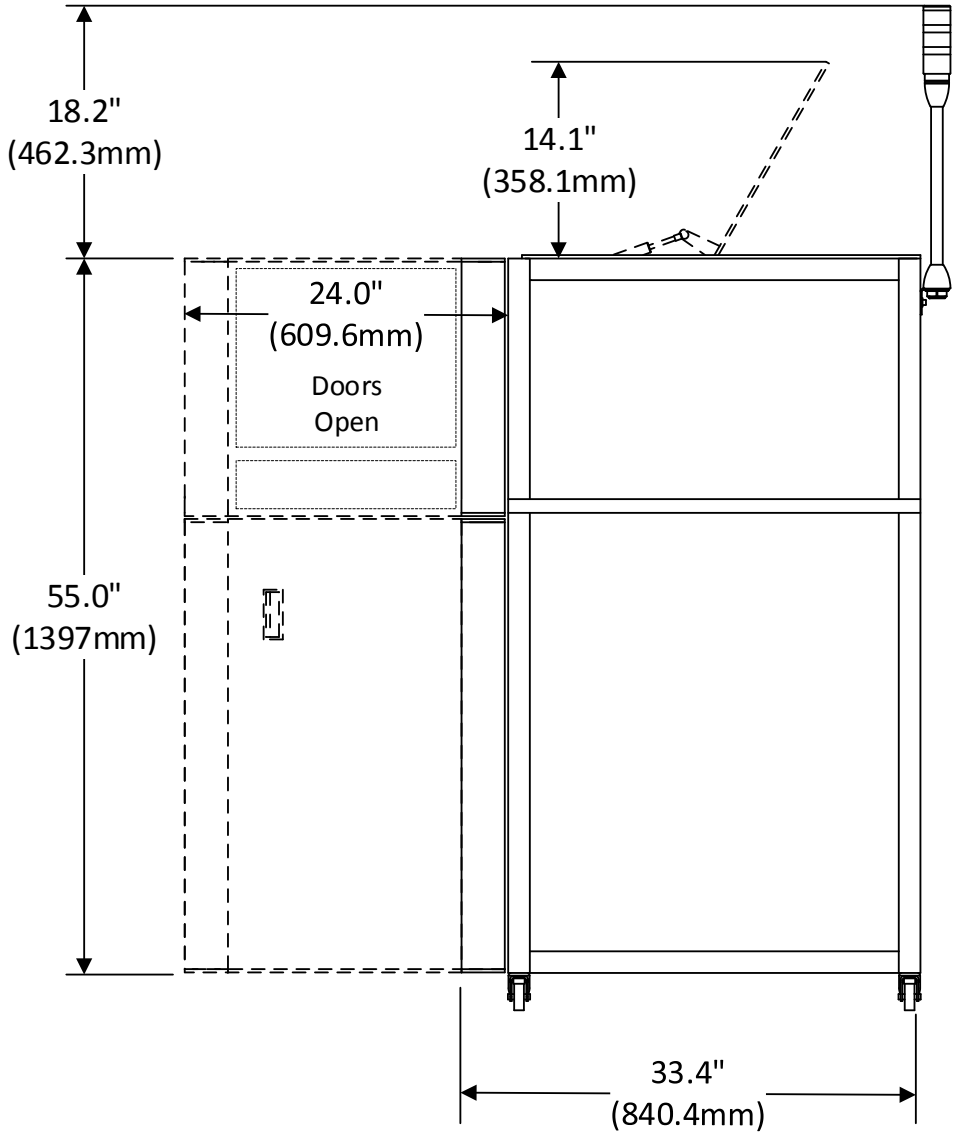

Figure 2: Apogee™ Mechanical Debonder
Right-Side View – With Dimensions

Apogee™ Mechanical Debonder Clamp Ring Mechanism

The Apogee™ Mechanical Debonder Clamp Ring Mechanism is depicted in Figure 3 (below).

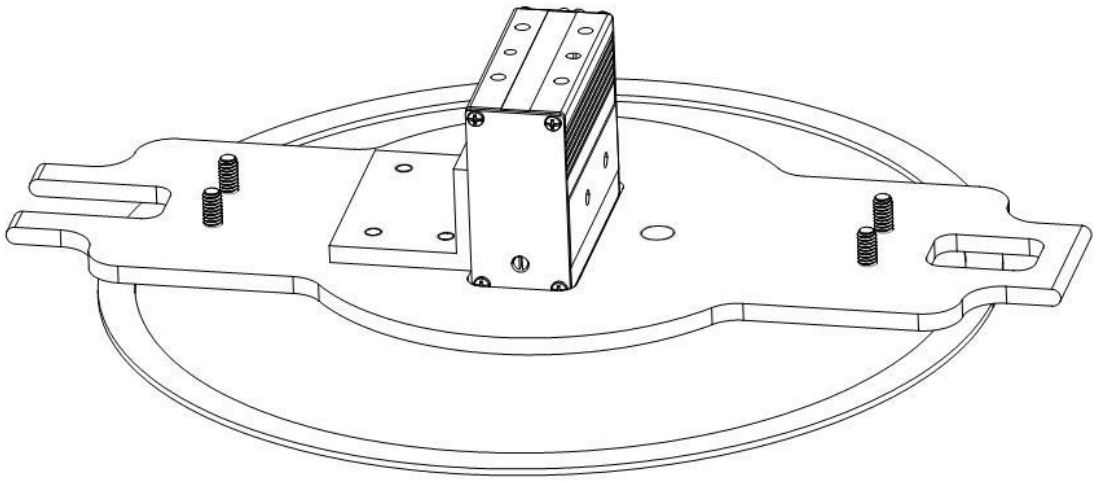

Figure3: Apogee™ Mechanical Debonder Clamp Ring Mechanism

The Apogee™ Mechanical Debonder clamp ring mechanism holds / clamps the carrier wafer in advance of debonding. Two individual clamping (half) rings separate for wafer loading which then close around the carrier wafer clamping it in place and providing purchase against which the debonding process can take place.

Please refer to System Operations Manual for additional information.

Apogee™ Mechanical Debonder Chuck

The Apogee™ Mechanical Debonder Chuck is depicted in Figure 4 (below).

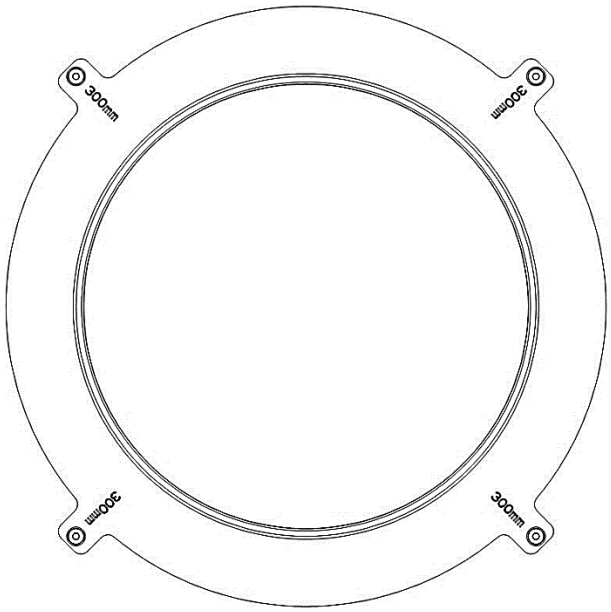

Figure 4: Apogee™ Mechanical Debonder Chuck

The Apogee™ Mechanical Debonder Chuck provides a vacuum holding surface for the carrier wafer on a film frame (with tape). A vacuum is drawn against the film frame and tape which provides holding force against the force exerted on the device wafer through the clamping ring mechanism.

In advance of debonding, nitrogen is purged while the clamp ring mechanism is closing to aid in proper centering of the bonded wafer stack. Once the clamp ring mechanism is closed, nitrogen flow is stopped, and vacuum is re-applied.

After the carrier wafer is separated from the device wafer, a slight puff of nitrogen is injected under the device wafer and film frame through the chuck to allow easy and safe removal of the device wafer on tape attached to a film frame.

The wafer can now be easily cleaned or otherwise handled.

Please refer to System Operations Manual for additional information.

Apogee™ Mechanical Debonder User Interface

The Apogee™ Mechanical Debonder User Interface is depicted in Figure 5 (below).

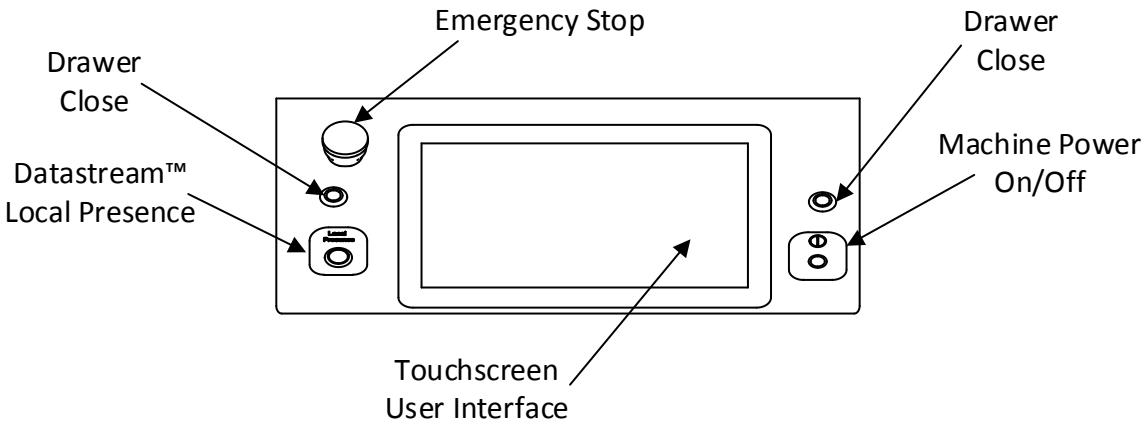

Figure 5: Apogee™ Mechanical Debonder User Interface

The Apogee™ Mechanical Debonder user interface contains all elements used by the operator to interact with and control the Apogee™ Mechanical Debonder. It includes physical elements such as the touch screen interface & EMO control and is located on the front of the machine for easy operator access.

Please refer to System Operations Manual for additional information.

Apogee™ Mechanical Debonder Utility Bracket Connections

The Apogee™ Mechanical Debonder Utility Connections are depicted in Figure 11 (below).

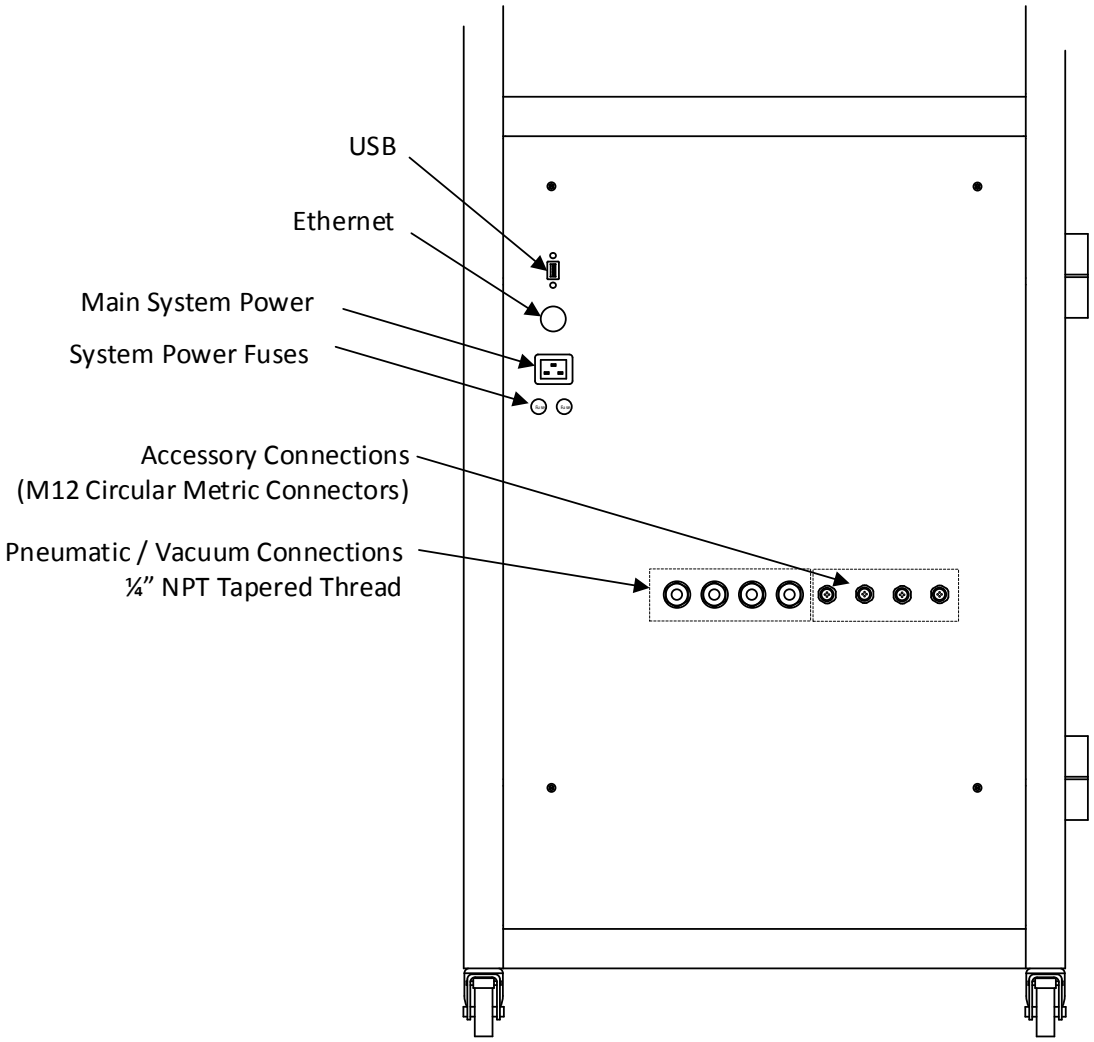

Figure 11: Apogee™ Utility Bracket Assembly

Utility connections to the Apogee™ Mechanical Debonder are made via this panel. Be certain to allow enough space behind this area of the tool for wires & hoses, and connections for same. The panel is inset to allow closer placement of the machine against a wall or other surface / equipment to help conserve cleanroom floor space.

Please refer to System Operations Manual for additional information.